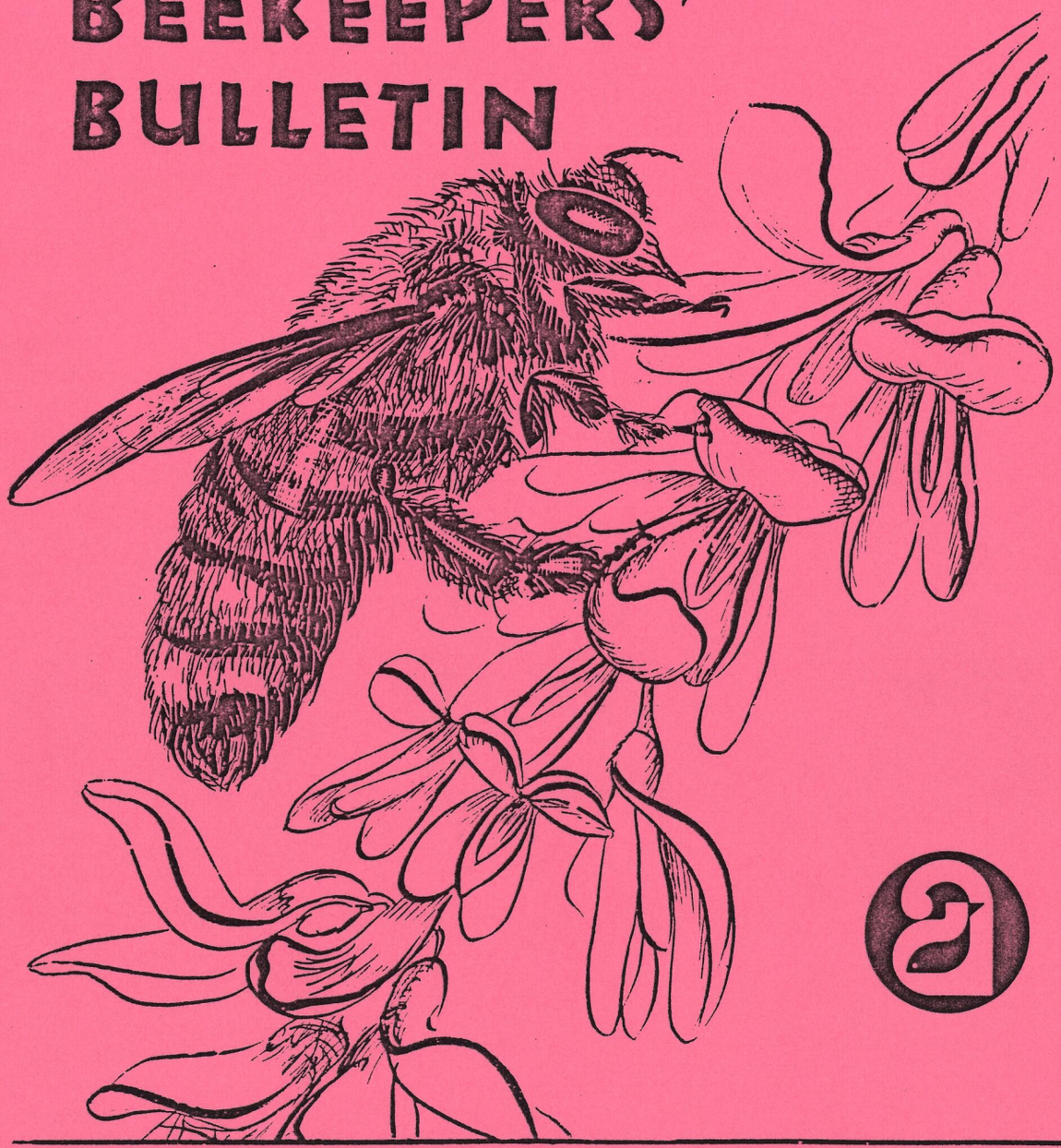
THE BEEKEEPERS' BULLETIN



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Number 4

May 1985

WHEN IS A SEMINAR NOT A SEMINAR?

When it's an industry planning workshop. At conference this year you are going to have the chance of hearing how the NBA's (your) industry plan has achieved results over the past 12 months, and you'll be able to contribute indeas for its on-going success.

What? Instead of running a seminar prior to conference this year, MAF will be having an industry planning workshop. This will be a mixture of speakers and active involvement by those attending (that's you).

Why? Because it's 12 months since the idea of industry planning was "unveiled" at the New Plymouth conference. The plan is not something to be pulled out and dusted off at branch meetings occasionally: it's a way of making things happen for your industry. Now it's your chance to hear how it's worked, and to add ideas for the future.

How? The workshop will look at three themes:

- industry requirements for MAF servicing. What should MAF be doing? Which things are the most important? What happens if MAF can't do them all?

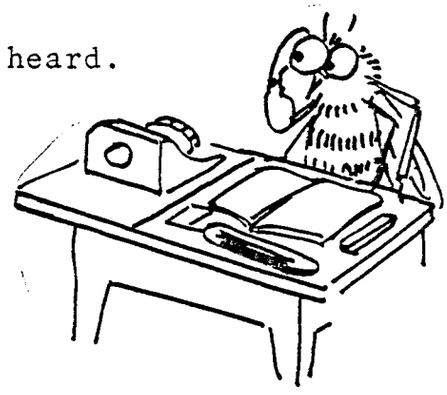
- bee pathology. Why does New Zealand need a bee pathologist? (What does one look like, for that matter?). Hear Dr Denis Anderson of the DSIR talk about his job. Ask him about priorities for disease research in this country.

- agricultural quarantine services. How much honey gets intercepted at Auckland airport each month? How do the "boys (and girls) in green" stop more coming in? What are you going to do to help protect your livelihood from being ruined by an exotic disease outbreak?

Where? Kings Motor Hotel, Greymouth.

When? Tuesday 23 July 1985; the day before the NBA's annual conference.

Who? You.Be there and make your voice heard.



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The beekeeper who has no time to support his association is like the man chopping wood who says he is to busy to sharpen his axe.

AFRICANIZED BEES

In the last newsletter I had an article about the Africanized honey bee in South America. Now, after three years in the making, the US Department of Agriculture has published a study on what effects this bee will have on the US bee-keeping industry.

It makes chilling reading. Depending on how far the bee spreads in the US, the cost of its presence will be $US26-58 million per year.

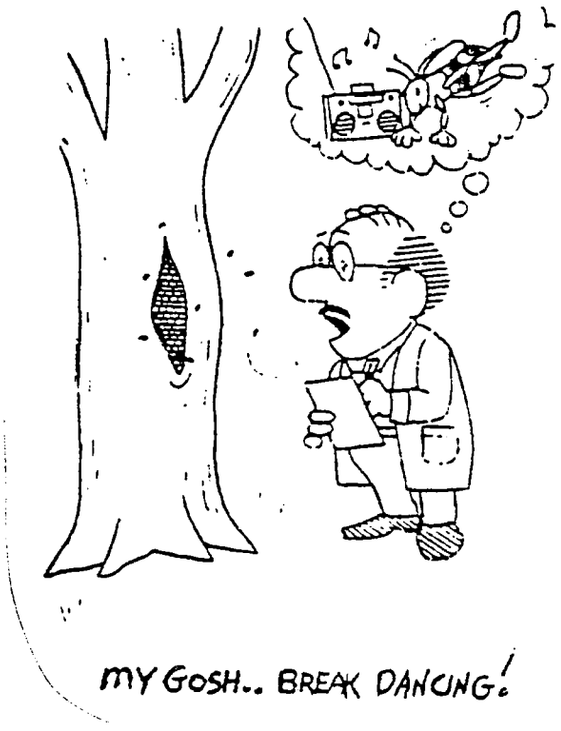
The author, a USDA economist, drew up four different pictures (or "scenarios" in the jargon) of how Africanization might occur. They include occupation of different areas, and various changes in the bee's behaviour. This is why the damage estimates vary so much.

The scenarios do not take into account any effects on public health, pollination (except almonds), beekeeping supply firms, non-migratory beekeepers in non-Africanized

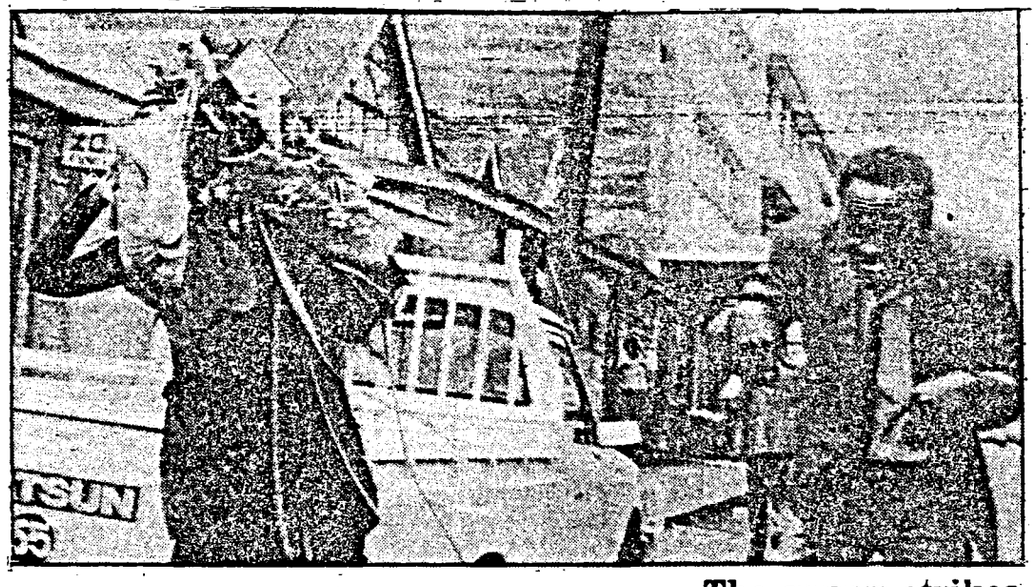
states, and overseas beekeepers who get queens or packages from the USA. Because of this, the report has been criticized by some who say the cost to the US will in fact be much higher.

The complete report, entitled "The Africanized honey bee in the United States : what will happen to the U.S. beekeeping industry?" (AER - 519) is available from the Superintendent of Documents, U.S. Government Printing Office, Washington, DC 20402, for $US 2.25.

Source - "Speedy Bee", January 1985.



Daily Nation, Nairobi, 26/11/84 p5



The swarm strikes on city street

These men are not street commedians although they look like them. They are running away from bees outside the Tearoom area in Nairobi on Accra Road. The swarm has a hive at the top of the building and were apparently provoked by an unknown persons on Friday. The bees attacked passengers taking their matatus to Nyeri and Embu near the area and almost business came to a halt after the invasion by the swarm. A motorcyclist fell off his machine when he rode along the road and several customers were known to have been "imprisoned" inside a butchery.

At Nairobi I heard someone from Bangladesh reporting on a beekeeping cooperative there. There are eight beekeeping associations in the scheme. To encourage enthusiasm, the beekeepers in each area with the highest and second highest production per hive become the association's president and secretary.

Any takers for that idea?

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HOW DO POLLEN TRAPS AFFECT THE COLONY?

One thing we don't know a lot about is the effect on colonies of long-term use of pollen traps. You'll get different results with changes in season, trap design, colony strength, and so on.

One German experiment discovered this:

Single grid pollen traps (efficiency 25-35%) were installed on six colonies. The average collection of fresh pollen per trap in 1982 and 1983 was 5 and 9kg respectively.

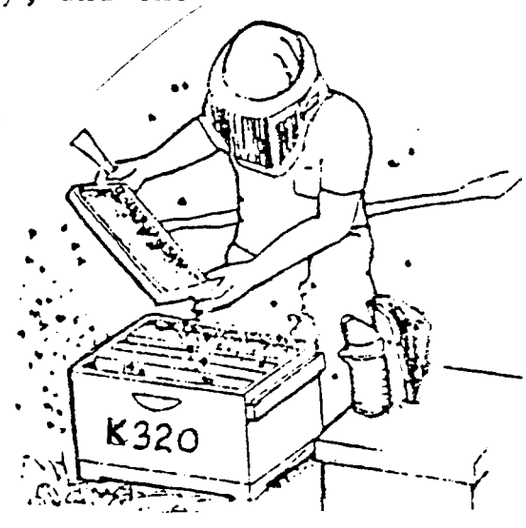
The permanent pollen trapping reduced honey yields by 60%, which may have been caused by an 37% increase in pollen collection by bees to compensate for the pollen loss by trapping.

The total pollen collection per colony each year was estimated at 15kg, which corresponds to about 3kg of raw protein.

The size of the brood nest was only slightly affected, although colony strength declined slowly.

An economic calculation showed little benefit in placing a permanent pollen trap. (This will, of course, depend on the relative values of pollen and honey, and the overall honey yield).

Source: Gransier, K. 1984. Effect of permanent use of pollen traps on colonies of *Apis mellifera carnica*. (In German). *Apidologie* 15(3) : 265-266.



HIGH - TECH FUME BOARD

Benzaldehyde boards are used by some beekeepers with mixed results. The problems can be summarised as follows:

* Too much chemical stupifies the bees. A teaspoonful sprinkled evenly over the board should do three to six hives or even more. It is also important to smoke the bees fairly heavily before putting the board on : this starts them moving in the right direction so they keep going downwards when the fumes start to work.

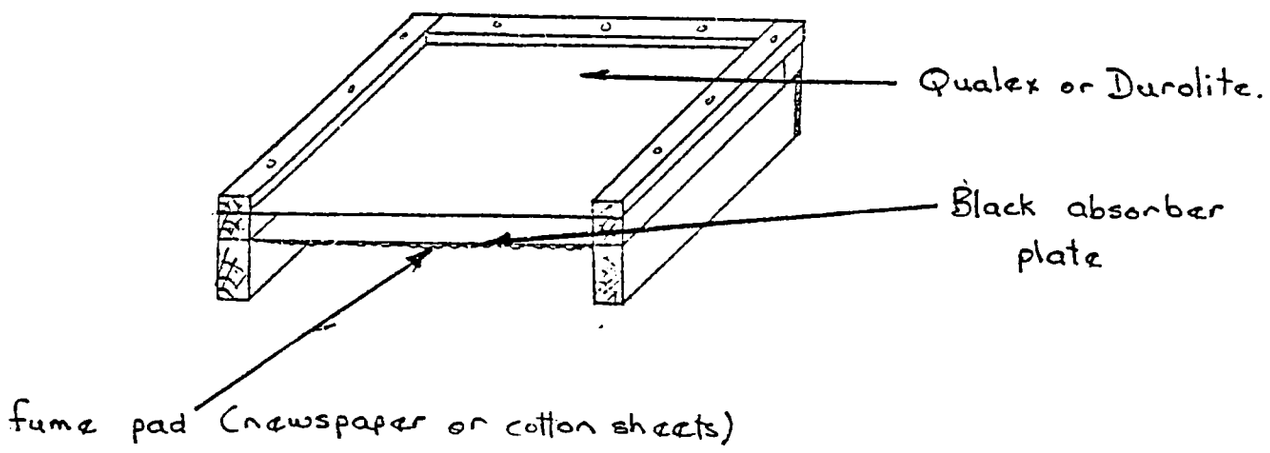
* The temperatures are too cool to vaporise the benzaldehyde properly.

* There is uncapped honey or brood in the honey boxes. Brushing or shaking is required here.

The Canadians have come up with a new design to overcome the temperature problems. It uses the "greenhouse effect" to raise the temperature of the fume pad.

I haven't tried one of these as yet but the idea sounds fine. I'd suggest the clear top plate should be of polycarbonate (eg Qualex) or fibreglass-reinforced polyester (eg Durolite) for safety and durability. The Canadians recommend that the metal plate be copper with an electroplated coating of black chrome, although aluminium sheeting painted black should work nearly as well.

Source: "Beelines"
December 1983 : 7-8



International Bee Research Association

Lately you've been hearing a lot about IBRA : the initials stand for the International Bee Research Association. IBRA's history goes back to 1949, when the Bee Research Association was founded "to advance research on bees and beekeeping". The name was changed in 1976 to reflect IBRA's growing role as a world agency for beekeeping.

IBRA is an information agency : a clearing house or communication centre for a beekeeping information in its widest sense. IBRA doesn't carry out any research. but it highlights areas where it should be done. Its main role is to communicate research results and other beekeeping information as widely as possible.

The "nerve centre" of this information agency is a 150-year old house near Gerard's Cross, a small town about 30 km west of London. There the director, Dr Margaret Adey, and a small team oversee the association's activities. There also is one of the most comprehensive beekeeping libraries in the world.

Publishing is one of IBRA's main activities. It puts out bibliographies, reports, books and three journals.

- *Bee World* covers recent developments in practical and scientific beekeeping.

- *Journal of Apicultural Research* contains original research papers.

- *Apicultural Abstracts* covers research on beekeeping and anything remotely connected with it. This is a computer-based system which lists all scientific and technical developments relating to bees and beekeeping.

All right - I've seen what good IBRA does for world beekeeping - what does it do for me personally? Members get the following benefits:-

- discount rates on some book purchases;

- four copies per year of the excellent publication *Bee World* .

Bee World contains a lot of information, but the main part of it is made up of very readable review articles. These are commissioned by IBRA to be written by world experts in the appropriate field.

For example, in 1984 *Bee World* had articles on such subjects as:

bee behaviour in kiwifruit orchards, pollen transfer in apple orchards, honey composition, honey bee pheromones, *Varroa*, climatic limits of Africanized bees in the Americas, indoor wintering of hives, two-queen hive management, and beekeeping in different parts of the world such as Kenya, India and Iran.

Membership costs £18.00 (about $NZ52) per year for individuals or beekeeping associations. This sum includes a *Bee World* subscription : associate membership (with no journals) costs £4.00 (about $NZ11.50) per year. I can forward membership application forms on request and handle subscriptions.

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Desire of knowledge, like the thirst of riches, increases ever with the acquisition of it.

Laurence Sterne 1713-1768

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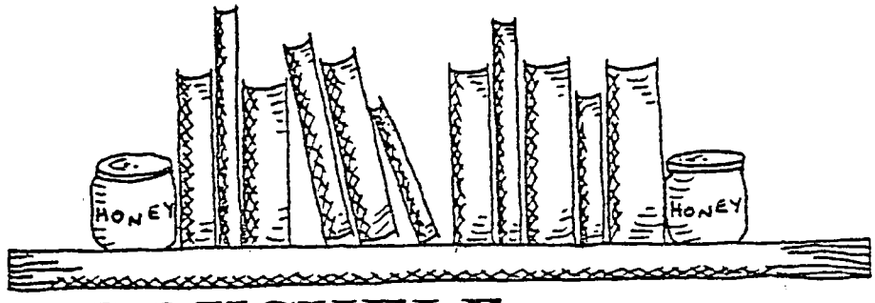

BOOKSHELF

BOOK REVIEWS

In the last few issues I've reviewed a number of books or reprints which you could find useful. To refresh your memory, they are:

- "Observations of honey bees on kiwifruit in New Zealand" by Cam and Doreen Jay, $NZ2.90 (approx).

- "Practical Beekeeping in New Zealand" by Andrew Matheson, $NZ17.95, or cheaper through NBA branches.

- "Pollination directory for world crops" Published by IBRA with financial assistance from the New Zealand Ministry of Foreign Affairs, $NZ40.00 (approx).

- "Directory of important world honey sources" Published by IBRA with financial assistance from IDRC, Canada. The price is about $NZ56.00 : note that the cost was given incorrectly in the last issue.

- "Queen rearing" by F Ruttner. A good digest of scientific research and current practices, suitable for those seriously involved with queen raising. About $NZ66.00.

All books are available through me. You may not wish to purchase any yourself, but perhaps your branch could consider buying one, or donating one to the NBA library.

If you think that you don't need to keep up with your reading, consider these words of a management expert:

"To manage a business well is to manage its future: to manage the future is to manage information".

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LIGHT READING

If you think there's too much information bombarding you, spare a thought for the stuff that passes across my desk. Try a few of these for size:

- Fish, R.H.; Browne, L.E.; Bergot, B.J.; 1984 Pheromone biosynthetic pathways : conversion of ipsdienone to (-)ipsdienol, a mechanism for enantioselective reduction in the male bark beetle *Ips paraconfusus*. *Journal of Chemical Ecology* 10(7) : 1057-1064. (How a beetle makes its pheromones).

- Ma, M.; Burkholder, J.K.; Webb, R.E.; Hsu, H.T.; 1984. Plastic-bead enzyme-linked immunosorbent assay : an inexpensive epidemiological tool for detecting *Lymantria dispar* (Lepidoptera : Lymantriidae) nuclear polyhedrosis virus. *Journal of Economic Entomology* 77(2) : 537 - 540. (Finding out if gypsy moths have got the dreaded lurgi).

- Lercker, G.; Vecchi, M.A.; Piana, L.; Nanett, A.; Sabatin, A.G.; 1984. Composition de la fraction lipidique de la gelee de larves d'abeilles reins et ouvieres (*Apis mellifera ligustica* Spinola) en fonction de l'age des larves. *Apidologie* 15(3) : 303 - 314. (Showing that queen and worker honey bee larvae get different food).

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SIGN OF THE TIMES?

The North American Apiotherapy Society's annual symposium which had been scheduled for November 10th has been cancelled. The scarcity of new research has made it very difficult to develop a programme for this year's symposium, according to NAAS President Ann Harman.

From "Speedy Bee"
November 1984.

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ACARINE MITE UPDATE

The acarine mite was first found in the U.S. last July, in the state of Texas. After the initial flurry and the "depopulating" of thousands of hives, a national mite survey is now underway.

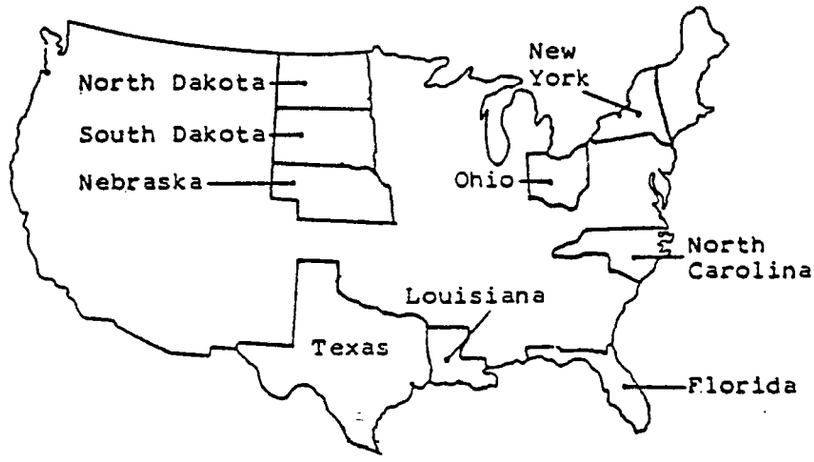
The mite has been found in 9 states so far (see map). Many quarantine orders have been lifted, permitting bee movement within states. This is effectively declaring the mite to be endemic in those states.

Canadian beekeepers overwintered 25% more hives last winter in case the border with the US was closed. The most recent information (late April) is that the border will be open for the 1985 shipping season. Bees will be accepted from US states free of the mite (i.e., in which it hasn't yet been found) and from infected states which have an eradication programme in operation. All bee shipments must be accompanied by a USDA certificate stating that the bees are free of mites.

The USDA has proposed the "deregulation" of acarine control, which really means that federal quarantines will be abolished and restrictions left up to the states.

One percent of the hives in Canada have been sampled for acarine, but no mites have been found. It seems that acarine will get to Canada eventually, but no-one really knows what effect it will have on colonies in that climate.

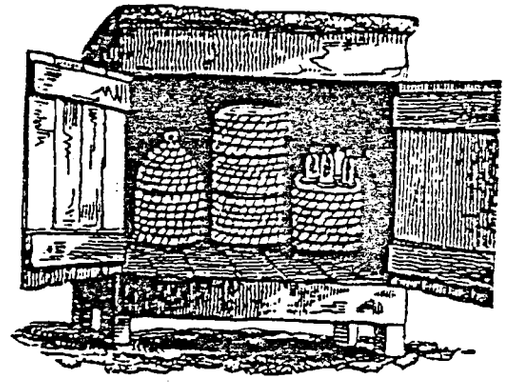
There is one benefit to the Canadians of this mite "scare" - it's made them gear up for what will happen when the real nasties arrive in the US, namely *Varroa* and Africanized bees. The industry is trying to head



States with Acarine Infection
January, 1985

towards more self-sufficiency, so the border can be closed to bee movements if needed.

Two examples of this move are: Saskatchewan now winters 65% of its colonies, and the figure will rise this year. In British Columbia there is an increasing trade in nucs (up 92% from 1983 to 1984), packages (up 226%) and queens (991%). Experiments show that two to four 1 kg packages can be shaken from a hive in spring. If this is done early enough, and pollen supplement is fed, the honey yield from the hive is not reduced. The net profit is increased to $C 45-50 per hive, from the $C 28-36 for honey production only.



Two last points about the mite: the US authorities have proposed that the acarine mite *(Acarapis woodi)* be called the "honey bee tracheal mite", to be more specific on what it really is. Many mites are called *Acarapis*, including some harmless ones which live on the outside of bees. Only *Acarapis woodi* lives in the tracheae.

Information on the tracheal/acarine mite and other exotic pests and diseases is found in Aglink FPP 428, available free from any MAF office.

Source: "Beelines"
Saskatchewan
March 1985.

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HONEY RESEARCH

It never rains but it pours. In recent years I've had to beg honey samples off many of you for honey research - there have been people looking at its antibiotic properties, lead levels, and pollen grain content.

Now someone else is carrying out research on honey - this time into the aromatics and volatiles which go to make up honey's smell and taste. He requires unifloral honeys; that is ones that are as much as possible of a recognised floral source.

If you can help please send 2 kg samples to:

Dr Frank Visser,
Biochemistry Division,
DSIR,
Palmerston North.

He is willing to pay for the honey, so enclose an invoice with each consignment.

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FOOD LABELS IN AUSTRALIA

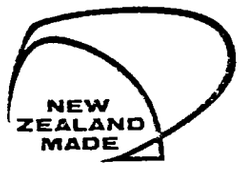
Queensland now requires food labels to bear:

* full name and street address of the manufacturer.

* full name and street address of the Australian importer.

This may mean having different labels for New Zealand and Australia, as well as causing further congestion on any small labels. The new regulation is based on a model prepared by the Federal Government : Queensland is the first state to adopt it and others can be expected to follow shortly.

Source: "The Exporter"



Queensland requires an import permit with all shipments of honey - even personally-accompanied gift packs. Other states (with the possible exception of Western Australia) don't require certificates at this stage.

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SADDER BUT WISER

Paraffin waxers are pretty dangerous things and we are all guilty of being a bit careless with them. Here are a couple of suggestions from a recent issue of "Waikato Bee Notes".

* Wear safety glasses or sun-glasses when loading a melter. I was with a beekeeper last year who splashed hot wax into his eyes. The wax burnt his eyes and proved very difficult to get out. It meant a trip to a doctor.

* Keep a supply of damp sacks to smother any wax fires in the melter itself. Extinguishers are useless.

* Check the can under the overflow drain tap and empty the water out before you light the fire. I tipped a can of molten wax back into a melter one day that turned out to have a lot of water in it. It's rather frightening to see a whole melter of wax froth up and run all over the ground with fires everywhere. In this case water was the most effective agent for dousing grass fires. It took 1½ packets of wax to refill the melter!

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UNDERSTANDING BEE STING ALLERGIES

For those of us in beekeeping, periodic bee stings are just a fact of life. While they will always hurt (particularly in a few tender spots I could name!) most of us are lucky enough not to suffer the redness, swelling, and sometimes even anaphylactic reaction that can accompany such stings.

As it turns out, however, those most near and dear to us can sometimes be the most at risk. In a three year bee sting allergy research study just completed, Dr J Day, of Ontario, Canada, has found that beekeepers' families are 50 times more likely than the overall population to show a general or anaphylactic reaction to stings. In such families the number of allergic people can be as high as 1 out of every 5.

What could cause such susceptability? At first thought some strange process of heredity comes to mind. But while we've all been accused of having bees on the brain, it really hasn't altered our genes. Instead, the work clothes that we bring unknowingly into the house seem to be the culprit. To see why, we have to learn something of how bee venom actually works in our body.

Our bodies contain a number of natural defences against the many foreign invaders they have to contend with. Bee venom is basically a foreign protein (called an antigen) which makes our bodies produce other, defensive proteins (the well-known antibodies). Antibodies are in the larger family of body proteins called gamma globulins or immunoglobins. Bee sting antigens stimulate the production of specific immunoglobulins known as Immunoglobulin E (IgE in the diagram).

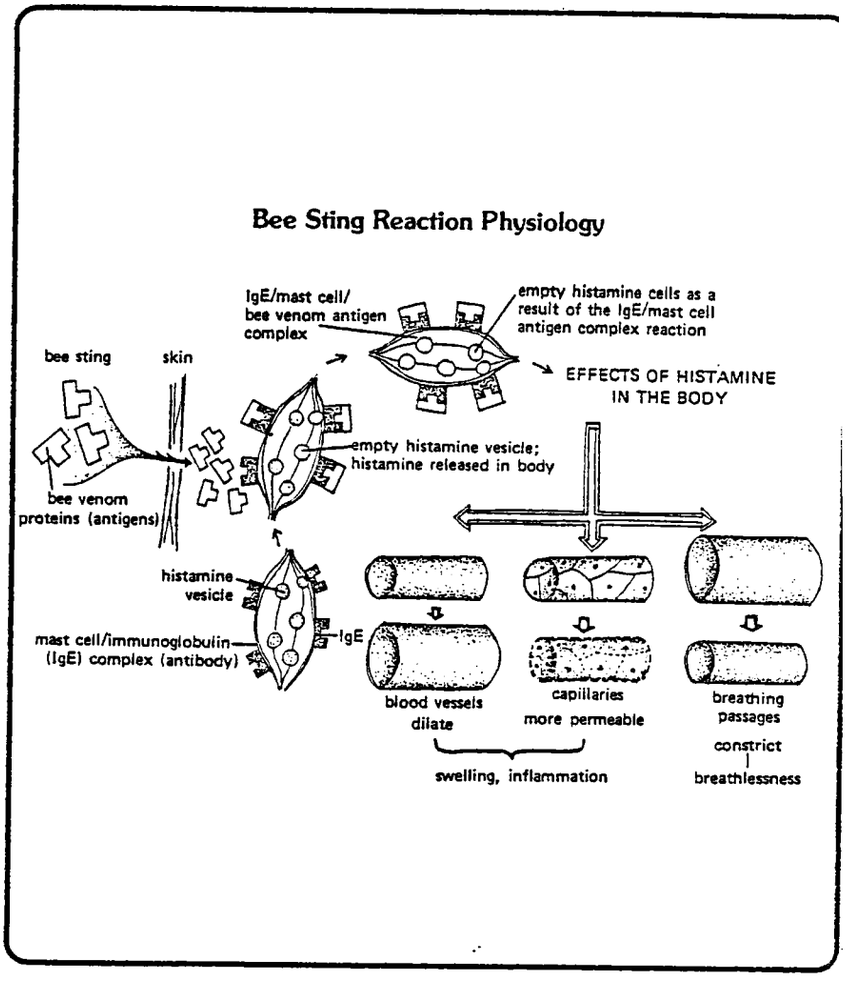
Now these IgE proteins are carried around in the bloodstream on tissue cells called mast cells, which contain sacs (vesicles) filled with histamine and other substances which cause inflamation.

When the venom antigen comes into contact with the IgE proteins and their mast cells, the reaction causes the vesicles to release the histamine into the blood stream. Once the histamine is released it has several effects including blood vessel expansion, take-up of fluids in cells and the constriction of breathing passages.

Many people have observed that bad swelling does not occur with their first sting. That's because the IgE antibody is specific to the bee venom antigen. Once the first sting has occurred, the body seems to "remember" the particular venom antigen. The next reaction is faster, with further antibody production taking place.

In people like beekeepers who receive repeated stings, the body is induced to produce another, "blocking" anitbody called IgG. IgG proteins are not fixed to histamine-producing mast cells, but float freely in the body and compete with the IgE in combining with the venom antigens. Because they are free-floating, IgG proteins are better able to attack these antigens before they reach the IgE/mast cells. Less histamine is produced, and there is no discomfort or allergic response.

But here's where our clothes come in. Overalls and other personal bee gear routinely receive bee stings, even though the sting may not make it through to our skin. As a result the clothing is continually being deposited with venom which crystalizes in cooler temperatures, but begins to vaporise through the air once in the warmth of indoors. Another means of spreading the venom may be in washing such overalls in the washing machine.



In either case family members receive minute doses of this venom, breathing it and coming into contact with it on their skin. The venom antigens set up the "memory" process of IgE/mast cell production, but without sufficiently strong doses to bring on the manufacture in the body of the "good guy" IgG. When such a sensitive person finally does receive a full bee sting the large number of IgE/mast cells reacts swiftly with a systemic histamine reaction.

Thankfully there is a desensitization process which can be used with individuals who show such a reaction. A preliminary test (called a RAST test) is carried out to determine the likelihood of a future reaction and then a course of injections with purified bee venom is given, usually at weekly intervals. These injections seem to stimulate the production of IgG proteins, which can compete with the allergy-causing IgEs. Once the course is completed a booster dose at regular intervals is required to keep up the level of IgGs.

Research carried out at Auckland Medical School (and other places) has shown that desensitization with injections of "whole-bee extract" does NOT work. This treatment has been in use for over 50 years, but has now been superseded by the effective use of bee venom.

Do what you can to protect your family by being sure to wash beekeeping gear separately from other clothes, and not leaving unwashed overalls and gloves lying around the house.

Sources: Illustration from *The Beekeeper's Handbook* (Sammataro and Avitabile); most of the article from Cliff van Eaton's *Southern Beekeeper;* other information from *Speedy Bee* and the *New Zealand Medical Journal.*

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FROM "WHAT'S ON IN NELSON AGRICULTURE/HORTICULTURE 1985"

Farm Bookkeeping Skills
May, St. Arnaud

A one-day workshop on specific bookkeeping skills - taxation, budgeting, planning and control of finance.
Contact: W.D.F.F. Phone SA833 or Farm Training Centre, Phone NN87 942.

Beekeeping
27 May - 5 August, Nelson Polytechnic

An advanced course.
Contact: P. Brunt, Phone 81 189

Labour Effectiveness Workshop
16-18 June, Alpine Lodge, Lake Rotoiti

"How to get the most out of people (including yourself!)"
This innovative programme examines effective management. Use of time, communications, delegation and motivation are covered in a practical, down to earth manner.
Contact: Farm Training Centre, Phone NN87 942.

Farm Welding Skills
June/July, Nelson Polytechnic
An introductory programme for farmers wanting gas and arc welding skills.
Contact: Farm Training Centre, Phone NN87 942.

Basic Business Management
9-10 July, Nelson Polytechnic
30-31 July,
A two way business skills programme for new growers.
Contact: Farm Training Centre, Phone NN87 942.

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SHIMANUKI REPORTS

Many of you will remember last year's visit to New Zealand by Dr H Shimanuki ("Shim") and his wife Vivian.
Dr Shimanuki is head of the US Department of Agriculture's principal bee disease lab, at Beltsville in Maryland.

Very soon after getting back Shim got embroiled in the acarine mite discovery in Texas, and has no doubt been flat out with that. He has, however, made time to issue three reports on New Zealand's beekeeping industry. It's always valuable to have an "outside opinion" of things here, especially from someone as knowledgeable as Dr Shimanuki.

Highlights of his reports include:

- strong praise for New Zealand beekeepers and the effectiveness of MAF's advisory system.

- support for the idea of having beekeepers responsible for disease inspection control and reporting, but also a warning not to let MAF check inspection levels drop. He recommended that New Zealand should not introduce drug feeding for AFB control.

- His opinion about chalkbrood is that it will have little economic impact overall, though it could appear to be prevalent in some areas or some seasons. Breeding resistance into our bee stock is important.

- Sacbrood and paralysis are common. Again, resistance to these diseases can be bred for.

- Halfmoon disorder (HMD) is still a puzzle. Shimanuki's current thinking is that it could be bacterial in origin though it is not a highly contagious condition. Laboratory tests will continue in the US.

- A seriously under-rated problem is nosema, which may be the most economically damaging bee disease in New Zealand. Beekeepers must convince themselves of this disease's seriousness and the value of feeding fumagillin.

- New Zealand has great potential for queen production, especially as markets open up in North America. This won't be easy to exploit, though, and it will take time and continued effort to establish a reputation for reliability and quality.

- The general fecundity of queens and gentleness of their progency is satisfactory, but further selection should be made for swarming tendency, honey production, wintering ability, rapid spring buildup and autumn shutdown. Beekeepers should give more feedback to queen producers.

- A bee pathologist should be appointed to undertake bee disease research. (Following this report and negotiations between MAF, DSIR and the NBA executive, a pathologist has been appointed to Mt Albert Research Centre in Auckland. Dr Denis Anderson will be taking part in MAF's industry planning workshop at Greymouth, Tuesday 23 July. Further details are elsewhere in this magazine).

- There is also need for a bee behaviour scientist to work on pollination, and a general apiculturalist to study bee-keeping management problems.

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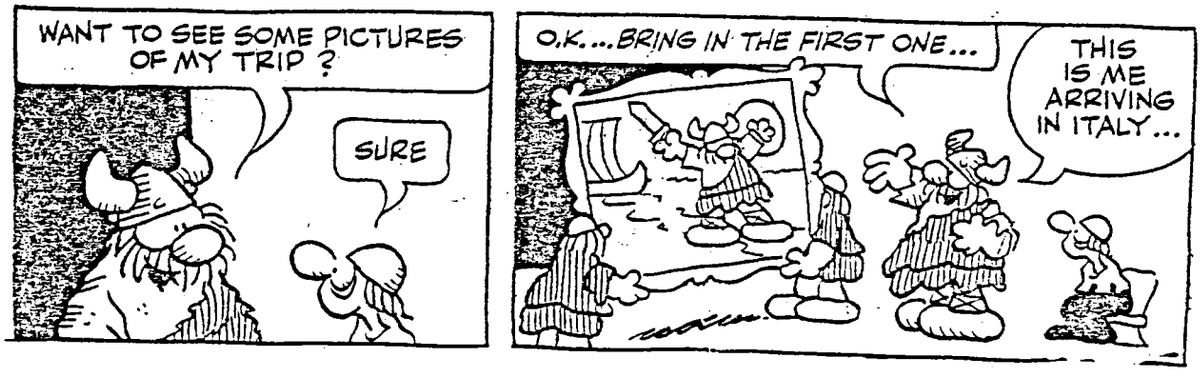


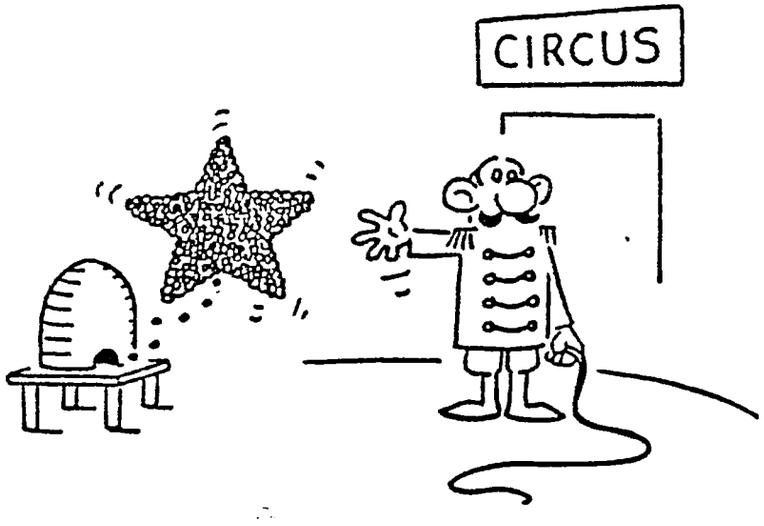
SO YOU THINK WE'VE GOT PROBLEMS

The US Government is buying huge amounts of honey, and nobody knows when this is going to stop. Beekeepers say that this scheme (which guarantees a minimum price for honey) is necessary to protect the industry from collapsing under the threat of cheap honey imports.

Others say that enough is enough, like James Bovard, a freelance writer in Washington. Below I've printed an edited version of an article he wrote for the Wall Street Journal in October last year.

USDA Policy Is for the Birds - and the Bees

Federal agricultural policy may have hit a new low. The Agriculture Department is buying half the entire U.S. honey crop this year - while imports are pouring in and replacing government purchases almost pound for pound. The honey programme will cost taxpayers $94 million this year - roughly equal to the market value of the entire US honey crop. And the problem is guaranteed to get worse next year.



The honey price-support programme had minimal cost as long as the government price-support level was below world market prices. But USDA price supports for honey have more than quadrupled since 1972 from 14 cents to 66 cents a pound, and are now far above world market prices.

Honey, unlike most Agriculture Department-subsidised commodities is not protected by stiff import barriers. So when the government drives up the price of domestic honey, foreign honey oozes in. High US price supports have signalled foreign beekeepers to increase production and to dump their surpluses on the US honey market.

As a result the department will buy up about 55 000 tonnes of this year's honey crop, while Mexico, Argentine, China and a few other countries will sell almost exactly the same amount to US consumers. Honey imports have soared from 22 000 tonnes in 1980 to 50 000 tonnes in 1983.

The current programme invites abuse. Some American processors are reportedly buying foreign honey at 46 cents a pound, claiming they produced it, and then reselling it to the Agriculture Department for 66 cents a pound. Since there are no obvious differences between US and foreign honey this is an easy ruse.

Members of honey cooperatives have revolted, refusing to sell honey to their cooperatives and selling it to Uncle Sam instead. Some of the smaller honey co-ops may not survive.

How does Congress react to this sticky mess? Congressmen from honey-producing states propose boosting the tariff on honey imports from one cent to 10 cents a pound. This would only slow the imput deluge, not stop it. As long as US support prices are 20 cents above world market prices, the US will be a dumping ground.

Because of low tariffs, the cost of high price supports show up in the federal budget, instead of being hidden in consumers' grocery bills. Farm protectionists want to camouflage the honey subsidy the same way that the government now camouflages much of the dairy and sugar subsidies.

Several congressmen insist that the Agriculture Department must continue bankrolling beekeepers because pollination is vital to the agricultural sector. This is the old argument that since something is a necessity, the government must pay to have it done. But, many beekeepers already rent out their bees for pollinating, and more could do so.

Price supports are defended as a means to stabilize markets and provide a guaranteed return to farmers. But, instead of being given a key to the Treasury, honey producers and other Agriculture Department subsidized producers should cover their risks by buying put-and-call options to sell their crop at a set price in the future. Options would provide the same type of insurance and security that price supports were intended to provide.

There is no reason for the federal government to disrupt our industry, worsen our balance of payments, and squander almost a hundred million dollars a year trying to do what a private market could do at no cost to innocent bystanders. But, as long as honey subsidies buy votes, congressmen will have sweet tooths. So goes another chapter in Congress's eternal struggles against the laws of supply and demand.

MORE ON THE HONEY "MOUNTAIN"

Latest news from North America is that the Reagan administration in the USA is threatening to eliminate all farm subsidies, including the honey-buying programme. This would have a serious effect on the price of honey in the US. Honey prices in Canada have already dropped from $C 0.60/1b ($NZ2.16/kg) two years ago to $C 0.45-0.48/1b ($NZ1.63-1.73/kg) this year.

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YOU KNOW IT'S GOING TO BE ONE OF THOSE DAYS WHEN....!

* Your wife says, "Good morning Bill", but your name's Wally.

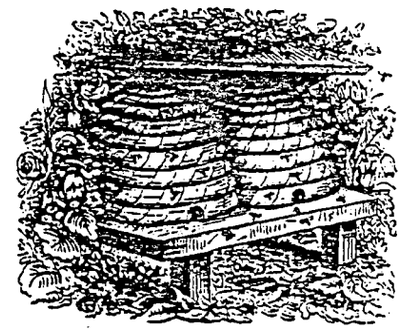
* You spend five minutes looking for your glasses and they're on your face.

* You spend 30 minutes in the supermarket looking for instant coffee.

* You look at your income tax return and realise it's going to take more brains to fill out the form than it did to make the money.

* Your brain stops working the moment you get to the office.

* * * * * *



FEEDING FUMAGILLIN

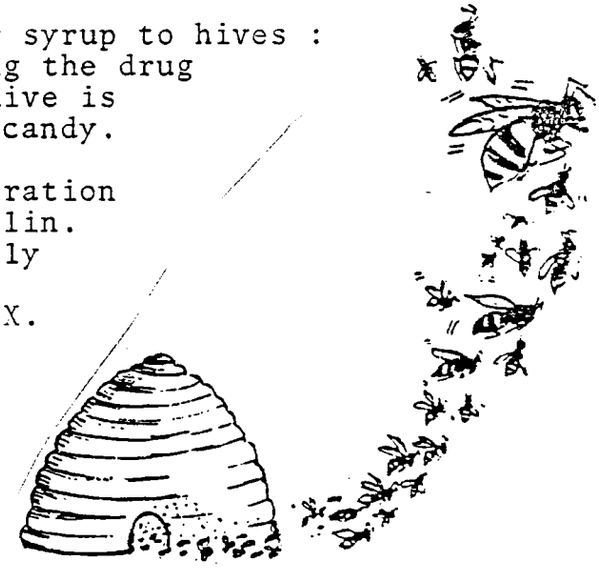
Recommendations for the proper feeding of fumagillin specify that only fresh preparations of sugar syrup and the drug should be used. How long does the drug maintain its effectiveness after being mixed?

Earlier studies have shown that once the medicated syrup has been manipulated by bees and converted to honey, it is effective against *Nosema* for 8 months. If the unmanipulated syrup is stored at refrigerator temperatures (4°C), it retains its effectiveness for at least 3½ years.

So fumagillin is stable for ages when kept in a fridge. But beekeepers' sheds aren't fridges : how long can medicated syrup be kept at room temperature? A recent experiment has provided the answer.

Fumagillin retains its activity for at least 30 days when stored at 20°C or 32°C, in either sucrose syrup or high fructose corn syrup (HFCS). So it seems you can make a drug/syrup mix a month before use if necessary, without it losing effectiveness.

Fumagillin must be fed in sugar syrup to hives : research has proven that dusting the drug (mixed with dry sugar) in the hive is useless, as is feeding it in a candy.



Fumidil-B is not the only preparation which contains the drug fumagillin. Beekeepers overseas have recently been given the choice of a second such preparation, Nosem-X. This formula has been proven to be as effective as Fumidil-B in suppressing *Nosema* infection.

I don't know if this drug is available in New Zealand. Fumidil-B is made by Abbott Laboratories, and Nosem-X by Mid-Continent Agrimarketing Inc., Overland Park, Kansas 66204, USA.

There are many other drugs which are NOT effective against *Nosema*, such as : Nosemack, Humatin and Enteroseptol. Neither is their use legal in New Zealand.

Furgala, B.; Sugden, M.A.; 1985. Residual activity of bicyclohexylammonium fumagillin in sucrose syrup and high fructose corn syrup stored at two temperatures.
American Bee Journal 125(1) : 47 - 48.

Sugden, M.A.; Furgala, B.; 1985. Bioequivalence studies comparing Fumidil-B and Nosema-X, two commercial compounds containing bicyclohexyl-ammonium fumagillin.
American Bee Journal 125(1) : 49-50.

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PRICES FOR SOME HONEY HOUSE PLANT

Item	Source	Cost
Penrose chain-drive uncapper	David Penrose 55 Fendalton Road CHRISTCHURCH	$5,275
Pender 21-frame extractor	Alliance Bee Supplies P O Box 5056 CHRISTCHURCH	$6,800 (bottom-drive) $7,200 (top-drive)
Bennie extractor timer *	Murray Bennie 24 Northland Street RANFURLY	$1,200 (with motor)
Pender 36" cappings spinner	Alliance Bee Supplies	$5,300
Maxant 30" cappings spinner	Alliance Bee Supplies	$3,100
Cappings centrifuge (spin-float honey/wax separator)	Hitchcock and Lawson Box 271 TIMARU	$9,000
Pender 2" vane pump	Alliance Bee Supplies	$2,200

Item	Source	Cost
$1\frac{1}{4}$" gear pump with $\frac{1}{2}$ hp motor and double pulley	Alliance Bee Supplies	$900
Stainless steel in-line honey filter	Hitchcock and Lawson	$5,500 (price 2 years ago)
Packing machine with revolving table	Hitchcock and Lawson	$10,500 (Price 3 years ago)
Apielectronic honey packer	Alliance Bee Supplies	$2,812
Italian pneumatic honey packer with table and tank	Alliance Bee Supplies	$3,533
Kingsley electrode steam boiler (18 kw)	A R Wakefield Ltd CHRISTCHURCH	$3,960

*The Bennie extractor timer will be described in an article in June's New Zealand Beekeeper.

These prices should be used for comparison purposes only and are continually subject to change.

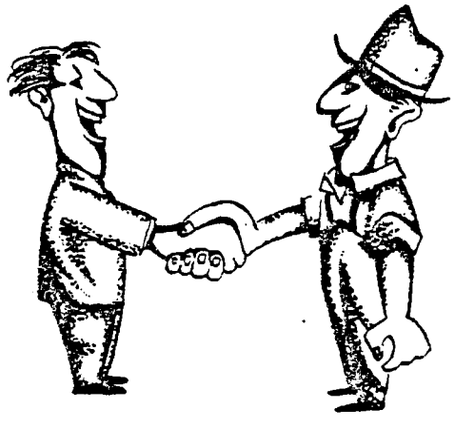
This list is given for information only, and mention of a product or supplier does not imply endorsement by MAF, nor recommendation over similar products or suppliers not included.

* * * * * *

A BEEKEEPERS' CODE OF ETHICS

The code of ethics, originally from the Bay of Plenty branch, has now been adopted by two branches in my district. They have done so with some alterations from the original, but the general principle is the same.

Have you ever thought about what having, say, yards of 20 hives 2 km apart really looks like? K M Doull, an Australian scientist, did some calculations on how much forage is available at different distances from hives. The table below is based on hives with a field force of 25 000, which is a full-strength colony in a 3-4 storey hive. It looks at the hive numbers required to achieve bee density of 1 per square metre.



Radius from hive	Area Enclosed (ha)	Density of 1 bee/m^2	
		Nº of bees	Nº of hives
100 m	3	30 000	1+
500 m	78	785 000	31
1 km	314	3 million	125
1.5 km	707	7 million	283
2 km	1 257	12.5 million	502

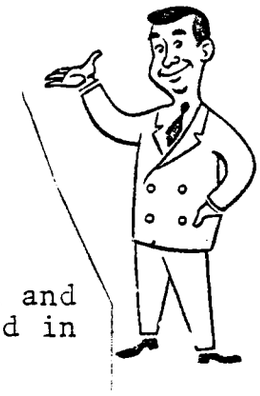
None of you stock sites with 500 (or even 300) hives, because of robbing and access problems apart from anything else. What these figures should show is that apiaries of less than 20 hives (at least) aren't of commercial size.

Reference: Doull, K.M. 1973. Biological and technical factors affecting profitability in beekeeping. *Australasian Beekeeper* 75(6) : 146 - 147

HERBICIDES AND BEES

Most herbicides are not toxic to bees, unless you use them to drown the bees! However, some herbicides are suspected of smelling so bad, that if sprayed on foraging bees they cause fighting at the hive entrance because of loss of "colony odour".

A recent German study suggests that this is unlikely to happen. After bees were trained to use a feeding station, some were sprayed with the following chemicals:



- 2, 4-D and MCPA
- Mecoprop
- 2,4-D and 2,4,5-T
- Dichlorprop

(All of these are used in New Zealand).

Tests were made with sprays at normal concentration and double strength. No abnormal behaviour was observed in the experimental colony.

Source: Schaper, F. 1984. Reaction of bees to herbicides non-toxic for bees (In German). *Apidologie* 15(3) : 241 - 242.

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NEW HONEY POTS

It seems that some beekeepers have complained about TecPack's "Saf-A-Pack", saying that it looks smaller than the 500g wax pottle even though they both contain the same quantity of honey. TecPack have heeded their cry, and have designed a new 500g honey pot which looks the same size as the old wax pottle. It still has the safety lid on, and will be available shortly.

After all that trouble, it seems that the old 500g wax pottle is about to disappear. Apparently Lily Pack's machine for making these has been on its last legs for a while, and can't be kept going any longer. It is intended that a representative from that company will be at the conference to get ideas on what design of container should replace the wax pottle.

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Andrew Matheson

(A G Matheson)
APICULTURAL ADVISORY OFFICER

RUSH JOB CALENDAR

MIR	FRI	FRI	FRI	THU	WED	TUE
8	7	6	5	4	3	2
16	14	13	12	11	10	9
23	22	21	20	19	18	17
32	29	28	27	26	25	24
39	38	37	36	35	34	33

1. This is a special calendar which has been developed for handling rush jobs. All rush jobs are wanted yesterday. With this calendar a client can order his work on the 7th and have it delivered on the 3rd.
2. Everyone wants his job by Friday, so there are three Fridays in every week.
3. There are eight new days at the end of the month for those end-of-the-month jobs.
4. There is no first of the month- so there can't be late delivery of end-of-the-month jobs on the 1st.
5. A "Blue Monday" or "Monday Morning Hangover" can't happen, as all Mondays have been eliminated.
6. There are no bothersome non-productive Saturdays and Sundays.
7. With no 15th, 30th or 31st, no "time-off" is necessary for cashing salary cheques or paying bills.
8. "MIR DAY"- A special day each week for performing miracles